(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date 15 January 2004 (15.01.2004)

PCT

(10) International Publication Number WO 2004/004836 A1

(51) International Patent Classification7:

A62B 1/12

(21) International Application Number:

PCT/AU2003/000852

(22) International Filing Date: 2 July 2003

2 July 2003 (02.07.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 2002950186

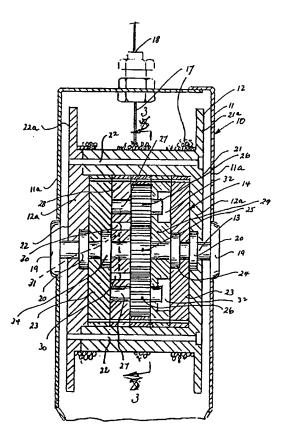
5 July 2002 (05.07.2002) AU

- (71) Applicant (for all designated States except US): FALL-SAFE TECHNOLOGY PTY LTD [AU/AU]; 5 Deakinwood Court, Waum Ponds, Victoria 3216 (AU).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): ARTHUR, Ronald, William [AU/AU], 5 Deakinwood Court, Waum Ponds, Victoria 3216 (AU).

- 74) Agent: GRIFFITH HACK; Level 3/509 St. Kilda Road, Melbourne, Victoria 3004 (AU).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: DESCENT APPARATUS



(57) Abstract: A descent apparatus (13) for loads and/or persons. The apparatus includes a cable or rope (17) adapted to be fixed at an elevated location with the remainder of the cable or rope being wound around a pulley (12) rotatably mounted within a housing (11) via an axle shaft (13). The housing (11) is adapted to be attached to the load and/or person and the relative rotation between the pulley (12) and the axle shaft (13) is controlled by a closed circuit gear pump (14) the gears (25, 26) of which form transmission means between the pulley (12) and the axle shaft (13). The closed gear pump forms part of an hydraulic circuit which contains a speed control mechanism (33) provided by an orifice (30) in the hydraulic circuit which forms a constriction to control the speed of the pump and thus the seed of rotation of the pulley about the axle shaft and as a consequence the speed of the descent of the descent apparatus (10) as the cable or rope unwinds from the pulley. The speed control mechanism can also include a valve member (34) co-operating with a mating seat (35) in an end of the orifice, whilst the position of the valve member (34) is adjustable relative to its seat by a grub screw (36) to adjust the rate of flow of hydraulic fluid through the closed circuit gear pump and as a consequence the speed of descent of the descent apparatus.